

Claims

1. An elevated equipment holding apparatus comprising:
a pin; and
a latch plate engaging the pin, the latch plate including a tortuous path that directs the pin to a latching point after the latch plate is raised and then lowered a first time, and frees the pin from the latch point after the latch plate is raised and lowered a second time.
2. The elevated equipment holding apparatus of claim 1 further comprising a capsule for holding equipment, one of the pin or the latch plate attached to the capsule.
3. The elevated equipment holding apparatus of claim 1 further comprising a capsule for holding equipment, one of the pin or the latch plate attached to the capsule and the other of the pin or latch plate attached to a body at an elevated position.
4. The elevated equipment holding apparatus of claim 3 wherein the body is a monopole.
5. The elevated equipment holding apparatus of claim 3 wherein the body is a monopole.
6. The elevated equipment holding apparatus of claim 1 wherein the latch plate further comprises:
a first cardioid-shaped plate; and
a second plate that forms a guide to direct the pin about at least a portion of the outer periphery of the cardioid-shaped plate.

7. The elevated equipment holding apparatus of claim 6 wherein the latch point of the latch plate corresponds to an indentation portion of the cardioid shaped-plate between a first lobe and a second lobe of the cardioid-shaped plate.
8. The elevated equipment holding apparatus of claim 1 further comprising means for lifting the capsule holding the equipment.
9. The elevated equipment holding apparatus of claim 5 further comprising a winch system for lifting the capsule holding the equipment.
10. The elevated equipment holding apparatus of claim 9 wherein at least a portion of the winch system for moving the capsule is housed within the monopole.
11. The elevated equipment holding apparatus of claim 10 wherein the winch system further comprises a crank mechanism positioned to be accessed from the exterior portion of the monopole, the crank mechanism for operation of the winch system for moving the capsule with respect to the monopole.
12. The elevated equipment holding apparatus of claim 10 further comprising a crank mechanism positioned to be accessed from the exterior portion of the monopole, the crank mechanism for operation of the winch system for moving the capsule, wherein the crank mechanism is keyed to prevent unauthorized access to the winch system.
13. The elevated equipment holding apparatus of claim 10 wherein the monopole further includes a liftplate cap attached proximate the free end of the monopole, the cap further comprising openings therein for at least one lift cable, the cap routing the cable from a position exterior to the monopole to a position inside the monopole.

14. The elevated equipment holding apparatus of claim 10 wherein the winch system further comprises;
- a load equalizing plate is located within the monopole;
 - a winch cable; and
 - a winch having a winch drum, one end of the winch cable attached to the winch drum and the other end of the cable attached to the load equalizing assembly.
15. A latch plate comprising:
- a first cardioid-shaped plate; and
 - a second guide plate, the second guide plate and the first cardioid-shaped guide plate forming a cam surface wherein the second guide plate is spaced from a portion of the periphery of the first cardioid-shaped plate.
16. The latch plate of claim 15 wherein the first cardioid-shaped plate is asymmetrical.
17. The latch plate of claim 15 wherein the first cardioid-shaped plate is asymmetrically shaped and includes a load bearing area corresponding to the indentation in the first cardioid-shaped plate.
18. The latch plate of claim 15 further comprising a backing plate, the first cardioid-shaped plate and the second guide plate are attached to the backing plate.
19. A method for positioning equipment on a monopole comprising:
- elevating an equipment capsule with a cable;
 - passing a portion of the equipment capsule over a cam surface to a load bearing point; and
 - relaxing the cable.

20. The method of claim 19 further comprising lowering the equipment capsule which includes:

- elevating the equipment capsule; and
- passing a portion of the equipment capsule over another cam surface beyond the load bearing point.